Dr. Jill

Your Functional Medicine Expert®

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147: Dr. Jill interviews Dr. Ronesh Sinha on Optimizing Metabolism, Weight Loss and Energy

Dr. Jill 0:12

Well, hello everybody. Welcome to another episode of Dr. Jill Live! I have a new friend and guest, Dr. Ron, here. I'm going to introduce him in just a moment. But you all know that if you want to find further episodes, you can go to my YouTube channel, iTunes, Stitcher, or wherever you listen to podcasts. And please, if you're enjoying the content, stop by, leave us a review, and share it with your friends. Today, I have the honor of [having] a new friend, and I have been so excited to meet him. We ran in the same circles, and [there are] lots and lots of beautiful things that I've heard about him. Today, I'm going to get to know him better along with you. Dr. Ronesh, how do you say your last name?

Dr. Ronesh Sinha 0:50

Sinha, yes.

Dr. Jill 0:50

Yes, Sinha. Thank you. He's the author of *The South Asian Health Solution* and an internal medicine physician who runs a lifestyle clinic in Silicon Valley focused on reversing insulin resistance in ethically diverse patients. He's also an expert in corporate wellness and serves as chief medical officer for the Silicon Valley Employer Forum, where he serves as a global advisor and shapes health benefits for over 60 major Silicon Valley companies. His groundbreaking work in corporate wellness and raising awareness about insulin resistance in the Asian population has received global attention with front cover stories in Fortune magazine and the LA Times. He blogs actively on health at culturalhealthsolutions.com and recently launched the Meta Health podcast, where he uses creative storytelling to teach listeners about health and metabolism. Welcome, Dr. Ron, I'm so glad to have you here today.

Dr. Ronesh Sinha 1:42

I'm so excited to be here as well. Thanks for having me.

Dr. Jill 1:45

You're welcome. I always like to start with [one's] story. Like, how in the world did you get to where you're at? Were you born out West? And how did you get into medicine? Tell us a little about your backstory.

Dr. Ronesh Sinha 1:56

Yes. I was actually born on the East Coast. That's where my early childhood was, and then I came to Central California for the fourth grade. As I was going through my schooling—this is actually not very inspirational because I actually did not know what I wanted to do with my life—being from an Asian Indian background, especially back in those days, there were three options: You become a lawyer, an engineer, or a doctor. So basically, even though when I went to college, my heart was more into writing and creativity in English. [My] immigrant parents were saying, "Well, you need to have a stable career." My older brother didn't go into medicine, so the pressure fell on me. I actually went into medicine just by a default mechanism. So I've got to tell you that when I was actually in medical training and medical school, I felt like an imposter in many of my classes and rotations. I'd be like, "Do I really belong here?"

Dr. Ronesh Sinha 2:44

Even when I started a medical practice in Southern California, I moved to the Bay Area. It took some time for me to get my feet wet, and I realized, "Wait, this actually is something I'm pretty passionate about." And as I raised my own kids and looked at the community, it's interesting because I think there's this expectation that kids should be passionate about what they're going into from age 12 or age 14. I think it's a high expectation you put on kids because you kind of grow into a lot of your passions. But what happened to me was [that while] I was in my primary care practice in the Bay Area, I started seeing a lot of people of Asian Indian descent who were coming in with really, really high heart disease and diabetes risks. And I realized that our medical group was providing very generic information, like, "Use the Mediterranean diet." How do you tell an Indian vegetarian that the Mediterranean diet is actually going to help their situation?

Dr. Ronesh Sinha 3:34

So what happened was that I started helping my medical group develop a website and resources that were really more culturally tailored for the population and the Asian population at large. That kind of checked out the box of, "Wow, I get to do some writing and some creating here," which I didn't quite get to do during medical training. As you know firsthand, it's a very left-brain memorization recall-type training process. That kind of set in motion the fact that I could serve a community, use my scientific background, and use some creativity to do lectures, create programs, do podcasts, and do writing in very creative ways to sort of help educate. That really became my passion. I realized my real

passion is teaching people, teaching students, and teaching the public to really digest complex scientific concepts so they can make empowered decisions about their health. So that's kind of where I've ended up now.

Dr. Ronesh Sinha 4:24

And the company, the corporate side of it, is my medical practice was right next door to Oracle and really in the heart of Silicon Valley. I realized that a lot of the patients I was seeing were desk-facing, sedentary workers who were developing really early diseases. So I started going out to the companies to give lectures, but I really added that cultural flavor so I could connect better with a diverse audience. So fast forward to now. A key part of my job is to really go out to these companies and teach people how to be healthy and well just by working from home, being sedentary, and having so much job pressure—how do you really add a cultural layer to it?—so people can understand what their individual risks are. As you know, the risks really vary among different ethnic groups. African-Americans have different risks for heart disease. Asians have different body mass index and waist circumference criteria. And if we give people all the same vanilla risk guidelines and advice, we're actually going to miss out on a lot of diseases, which is what I was seeing in my clinic. So that's kind of a broad overview.

Dr. Jill 5:21

Wow, I love that. In my experience in medical school too, I was like this artistic, creative, very intuitive being, and I was born into a family of engineers. There were no other doctors. But a similar path in the sense that I went to this institution, which is very analytical and black and white. If you think about energies, [it's] a little bit more masculine than the feminine, creative [side]. Again, there's nothing wrong with these things; we all have every part of this in ourselves. But I kind of felt like a fish out of water, too. And what I did first was kind of suppress that other side of myself to get through the brutality of medical training. But then there's this piece inside that's inside, like, "Wait, is there more?" And what I love is that you've used your passion and creativity. I think that the best of both worlds in medicine is: How do we really transform the practice? I've been talking about it because of the book that just came out that I wrote about how, in medicine, you're trained to kind of ignore your needs and be very driven. It's such a black-and-white model. And I don't think it creates very creative or compassionate physicians, right? It's like we're brutalized into, "Ignore your need to pee." You're [inaudible] surgery for six hours and, like, "ignore your need to drink and sleep." And not taking care of ourselves actually doesn't create a very compassionate, creative outcome.

Dr. Jill 6:36

So I already love that story because what you've done is take that great education that we both got: How do we go into the world, transform it, and meet people where their needs are? The second thing I heard was amazing because you saw this population, and I've seen this too: You go on Instagram or social media, and [people say] "Everybody should be carnivore," "Everybody should be keto," and "Everybody should be vegetarian." I find I'm so open because there's no [such thing as] "one size fits all," right? There's no [such thing as] "one size fits all." We definitely have to add whole foods, good foods, and organic if possible. But let's talk a little bit about that because I find that to be such a conundrum. A lot of people in our world are saying everybody should be this way, or, again, keto, paleo—they're all popular. Those can be appropriate for certain populations. But then, when you have someone who is quinoa-based or rice-based, tell me specifically more about this, the Asian population, and what you came across, because I think this is valuable information for all of us.

Dr. Ronesh Sinha 7:28

Yes, so if we really bring it down to the essence of energy... And I totally agree. I feel like we have a peer support group. I didn't realize you emotionally suppressed yourself through medical training like I did. [inaudible].

Dr. Jill 7:39

Now I have my purple hair. This would have never gone, right?

Dr. Ronesh Sinha 7:41

[laughing] You're, like, rebelling so many years later now. No, totally. Absolutely. Yes, but to answer your question, it's true. It's almost like religion when people talk about their dietary preferences, and it can lead to a lot of tension. I even have people in my audience that maybe decided that they were going to go plant-based and vegan, and they really reached out to me and said: "You know what? I think your information is wrong because my life got transformed." And I'm like, "I'm so happy your life got transformed." I really don't care if it happens through my book, my therapy, or if you find your own avenue. But the fact that you took control of your health is all that matters. But the way I think about it is that, again, talking about metabolism, we just think of food as being energy. At a very high level, all we want to do is make sure that your body can appropriately use that food energy and really power all the different resources in your body. And that energy can obviously come from carbohydrates, proteins, and fats. It's at that macronutrient level that a lot of the battles start to happen—low carb versus low fat and all these things. But really, what it comes down to is, to some degree, energy intake.

Dr. Ronesh Sinha 8:44

And in that Asian population, what I was finding was that the relative amount of carbohydrate intake was very, very high. If we think of the mitochondria, again, that's a power structure inside our cells. It converts food into energy. If there's a relatively large amount of any of those macronutrients, especially fat or carbs, it overwhelms the system. And once the mitochondria are overwhelmed, they cannot function properly. It'll divert nutrients to fat, to the liver, and cause all types of issues. So in this population, I saw a lot of rice eaters and a lot of flatbread eaters. I have nothing against lentils, but if you add a lot of lentils with the rice and the [inaudible] and the flatbreads, you've got a cumulative carb overload. So that was the big message.

Dr. Ronesh Sinha 9:27

When I wrote the book and started the process, nutrition can be so complicated, and I hated to simplify it that much, but I was like, "That literally is the lowest hanging fruit." So I need people to understand insulin resistance in the context of carbohydrate intolerance. That was really the big thing there. Now the interesting thing is that as many of those patients have gotten healthier, they've literally added mitochondrial horsepower, as I call it, because now they've got more engines [and] are functioning better. So somebody who was rice intolerant—let's say five to seven years ago, and I kind of treated rice as a taboo food in them—now they are actually physically active and healthy enough where rice is an incredible source of energy after their three-mile hike, or after they've done a HIT training session, etc. So a lot of those foods that might not have been appropriate for them at one stage of their lives can evolve to actually adapt to them.

Dr. Ronesh Sinha 10:17

I have some patients who are elite athletes. They're not of Indian background. They're Olympic-level athletes, and I'm not sitting there counting their carbohydrates at all. We have to optimize their rest, their recovery, their training, and their overall balance of nutrients. But I think that's where the nuance is. So somebody who is really benefiting from low-carb keto—good for them. But that doesn't necessarily mean that that diet is going to be appropriate for their brother or someone else. You can't really generalize and extrapolate to other people because their genetics are different, their energy needs are different, and their risks are all different. So hopefully that kind of unifies things a little bit.

Dr. Jill 10:50

That's super helpful. And one thing that I thought about too, as you first introduced [yourself]: You're in Silicon Valley, and when you started really working with these people, they were all sitting at a desk. They're probably extremely high-stress, extremely driven, and Type A. And that, because it drives cortisol and insulin, is part of this whole picture, right? If they were in their native environment and were growing food and harvesting

food... Like 100 years ago, all of our grandparents, or 200 years ago, versus in the Silicon Valley, in Chicago, or in New York City—that makes the difference too, right? Because they're sitting, they're sedentary, and their stress level is high. Tell us just a little bit about, because this is relevant for everybody, what happens—when you're very sedentary [and have] high stress—to the metabolism and to the risk of diabetes in this whole high cortisol situation?

Dr. Ronesh Sinha 11:35

Yes, great point. Even before I dig into that science, I love the fact that you brought that up. One of the experiments I've performed over and over on my patients is as much as when they are in their high-stress [mode], parenting, work, or a lifestyle that's sedentary and really driven, they might be quantifying their carbohydrate intake. A lot of my patients—we can talk about this later—I put a continuous glucose monitor on them. They find that if they're exceeding 100 and 150 grams of carbs per day, their glucose is just very unstable, and it's all over the map, and they're having to do a lot of things to help manage that. The interesting thing is that when a lot of these patients go back to their native country, like my Indian patients, they go back to India, where they might be in a more rural part of the town where their family is, and they're really not paying attention to their carb intake. But they knew intuitively that they were probably eating three times more carbohydrates. And guess what? Magically, they lose some weight. Some have actually worn their CGM, and their glucose is so much more stable. And exactly what you said is that you've got all these other inputs of sleep disruptions, circadian rhythm disruptions, high stress, and all this stuff. And the food not being as natural as something that their grandmother or their mother is preparing there really has such an incredible impact on metabolism.

Dr. Ronesh Sinha 12:45

Early on in my work, I kind of thought of those as something on the shelf. I didn't really think it could directly impact that. But boy, when you put a glucose sensor on and you see what happens in the midst of conflict or any of these stressors, you realize that the emotions that go inside that head are as important as the food that goes inside your mouth. So it is so powerful. So you're absolutely right; that becomes a big factor. And then the specific mechanism, as you brought up, definitely what cortisol does do... So if we think of food and nutrients as having different destinations in the body, carbohydrates in particular, in an ideal of metabolism, we'd want about 80% of that carbohydrate to go to your muscles, so your muscle can use it and store it if it doesn't need it, or burn it and use it for energy. But when you've got metabolic dysfunction or insulin resistance, all of that carbohydrate is not getting to the muscle. I call it the muscle parking lot. I tell people, "Carbs are like a car." So that car is getting diverted to fat cells, or it's going to the liver. And then the liver can store it, turn it into fat, or pump it out as blood sugar or triglycerides. So

cortisol is an additional input. Again, the stress hormone can divert that carbohydrate energy more toward the liver and accelerate the process called gluconeogenesis, where the body converts starches into glucose. And cortisol has a very powerful impact on that.

Dr. Ronesh Sinha 14:01

So many of my patients, interestingly, and I'm sure you see this in your clinic, prefer very low carbohydrate—they're ketogenic, etc. So if we were to explain this just by being carbohydrate phenomenon, there's no reason why their morning blood sugar should be so high—why their average sugars are so high—because it's not based on their carbohydrate intake. But the minute we realize that it's their stress, and actually the nutritional stress, because they're not necessarily enjoying having to restrict their carbs to be socially disconnected, because you're like, "God, I don't want to go to that social gathering," because you're going to have a bunch of carbs there, and "I just don't want to be there," all these other things are actually causing more metabolic stress to the body than the food they're actually consuming. So it's a really, really important point that we need to keep emphasizing.

Dr. Jill (pre-recording) 14:43

Hey, everybody. I just stopped by to let you know that my new book, *Unexpected: Finding Resilience through Functional Medicine, Science, and Faith*, is now available for order wherever you purchase books. In this book, I share my own journey of overcoming life-threatening illness and the tools and tips and tricks and hope and resilience I found along the way. This book includes practical advice for things like cancer and Crohn's disease and other autoimmune conditions, infections like Lyme or Epstein Bar, and mold and biotoxin-related illness. What I really hope is that as you read this book, you find transformational wisdom for health and healing. If you want to get your own copy, stop by readunexpected.com. There, you can also collect your free bonuses. So grab your copy today and begin your own transformational journey through functional medicine in finding resilience.

Dr. Jill 15:40

Gosh, so brilliantly said. My thought is that the cultural diets that you're dealing with back in the day, in the culture, might've been perfect. And that's the difference here. And everything is Americanized. So even in these very rural places, they're getting more McDonald's and some of these things. So I think the beauty of it is that, culturally, some of these diets were absolutely perfectly balanced for that culture. Like you said, the grandmother harvested the grain. And you know, I love Dan Buettner's work on the Blue Zones because what he's shown is that all of these centenarian areas—Italy, Greece, Japan—a lot of them are very high carb. Their main sustenance in Japan is, I think, some

sort of sweet potato and soy. And then in Greece—I may be saying this wrong—it's like rice and corn. In Costa Rica, it's corn. So in our Americanized world, when it's very processed, such things as corn tortillas or whatever would be—in a stressful environment—totally wrong. So I love that we're talking about [this]. There's this macronutrient thing that's key, but it's really reliant on stress, the environment, and even the quality of food because, sadly, in the U.S., everything is so processed and sprayed with pesticides. And these things affect metabolism as well.

Dr. Ronesh Sinha 16:48

It's so true. Even my relatives that literally come to visit me from India, when they come here, it's incredible; within a few days, they gain tremendous amounts of weight. It's not that they're eating that much more food. But you start to realize that the blend of all the stuff that's put into the foods that we eat, [like when] we go to restaurants, etc., is just very different. My relatives are non-vegetarian; they eat meat and fish, but hormones… You just realize that a milieu of different things is really doing something different to the body that we don't clearly understand. But it's clearly not benefiting our bodies in any way.

Dr. Jill 17:20

Right. And then, how do we live in this toxic world?

Dr. Ronesh Sinha 17:24

Yes. The interesting thing is, I think people who have grown up in this toxic world—I'm not saying that they've adapted fully, but it seems like it has a little bit less of an impact, or maybe it's stretched out over a longer period of time. But when I see immigrants come here from China, India, etc., maybe it's their microbiome. Because they're conditioned to that native environment, when they're exposed to Western foods, like within that first year of immigration, it's kind of like the freshman 15. Literally, I see the freshman 15 for immigrants where they become full-blown diabetics. They gain just enough weight to throw them over the edge and develop a fatty liver and all these issues. There's something really insidious happening to us. I was born and raised in the US, so maybe I had more of a gradual toxic exposure. Not that I'm saying that's good, but for people for whom it's more abrupt, it really can have quite a dramatic impact.

Dr. Jill 18:14

Wow, and that just goes to show because I've been studying glyphosate applications. I grew up on a farm and all these things. I know wheat in the US is number one; bread to be higher—gluten. And number two: Almost always, unless you're getting organically certified, it's sprayed with glyphosate. So I'm wondering if this load, I think, really does affect… Sorry to get off on a tangent, but I think it's—

Dr. Ronesh Sinha 18:32

No, no, no; actually, I'm glad you brought that up. And this is your area of expertise. So I'd love to ask you because I do see, for example, a lot of Indian women who have significant issues with gluten; they seem like they're gluten intolerant. A lot of them have Hashimoto's thyroiditis. And the interesting thing is that when they go back to their native country and consume the flatbread tortillas, the chapatis, and all those things there, they don't have the same bloating and the same effects. They feel like they can tolerate it better. So absolutely, this is kind of my experiment. [inaudible] native country being in the West, I'm seeing this going back and forth, and I've been seeing it for over a decade. So I think all of your insights around pesticides, gluten load, and [other] things are definitely having an impact. For sure.

Dr. Jill 19:13

It's fascinating. Stephanie Seneff did some work, and she was postulating that number one, gluten is almost always more likely [to be] sprayed with glyphosate. So unless you're really careful, you're getting that roundup as well. It actually changes the protein structure, so it makes it more antigenic to the immune system. And her correlation was that [the number of] children with autism and celiac disease was a massive rise in correlation with the spraying of wheat. Who knows if it's an exact correlation or not, but it was interesting to see. And I bet there is because I've seen the same thing where Americans go to Europe and often they can eat—

Dr. Ronesh Sinha 19:45

Right, it's so true. They're in Italy, and they're walking, steps, and they're eating way more carbohydrates, and they feel good, and they're not gaining weight at all. There's something to that.

Dr. Jill 19:54

Fascinating. So continuous glucose monitors are super popular now, and you've been using these, I know, with your practice and tracking people for a while. I think it is really helpful. My family actually has a strong history of diabetes, so my brothers have all tried that. They were all kind of shocked at, "Oh yes, like rice"—you would think that's a pretty healthy food, [but it] really raises blood sugar. What have you seen that be? How powerful is that for patients or people who are listening?—and like, either "I just got one" or "I want to get one." What would you give them as far as advice on how to use that?

Dr. Ronesh Sinha 20:22

Yes. You know, literally at my medical group right now, I'm actually running scalable programs with several hundred people in them. So what we do is prescribe sensors for them. I don't actually interpret their data individually. But because I've looked at this data for so long, we teach them what those average numbers mean. One thing I want to say off the bat is that, as much as they've really been touted as being like a miracle and they're incredible tools and sensors, and I'm a big fan of them, they can actually cause a lot of irrational anxiety because glucose spikes are just all of a sudden demonized. "You need to eliminate all glucose spikes; have apple cider vinegar before every single meal." "Why is your glucose going up after you eat a banana or something like that?" So I just want people to know that glucose spikes are expected; that's a normal biological function from evolution. So that's one thing you need to keep in mind. But what we need to start acknowledging is not just the glucose spike. The first thing [you look for] when you put the sensor on: What's the magnitude of the glucose spike? And even more than the magnitude, how long is that glucose spike actually lasting?—because really, if you have an optimal metabolism…

Dr. Ronesh Sinha 21:21

Again, coming back to that image that I gave you of the carbohydrate car, efficiently, the muscle clearing it out of the system, and a really solid metabolism. When your glucose spike goes up, the muscle should very effectively clear that glucose out of the system. Now, if you look at studies, if you're based on diabetic data, yes, you'd expect that you'd clear up by less than three hours. But if you look at young folks with optimal metabolism and no signs of insulin resistance, and in many of my patients that have reversed their diabetes, they start off maybe with a two-hour glucose recovery time from spike back to baseline. But as they get better, they're gradually coming down to 90 minutes and 60 [minutes]. So for many of my patients, it's between 30 and 60 minutes. And even if they have something that's high-glycemic, you get that back down to the range. So that's key to look at.

Dr. Ronesh Sinha 22:07

The other factor that you really look at is: How much glucose variability are you having throughout the day? This is a really big issue for a lot of my [patients that are] women in particular because when they go see their doctor and they get regular glucose for an A1C test, the A1C being your average sugar that lasts two to three months, often they see that their number is normal or it's on the low side. And they're told by their doctors: "You're great; you're far away from diabetes." But one of the reasons they're actually low is because they're getting so hypoglycemic. And that's what the CGM picks up on: The fact that, my God, every afternoon your glucose is crashing by 60 to 70 points. While you're sleeping at night, you're getting frequent hypoglycemic episodes. So those lows are actually pulling that average number down.

Dr. Ronesh Sinha 22:48

But coming back to cortisol, if you're having that much glucose variability with that many relative hypoglycemic episodes, that's going to be a big strain on the brain, the body, and the metabolism. And studies actually showed that a lot of glycemic variability is actually atherogenic. It does things to the blood vessel wall that can actually trigger more plaque formation. Also, glycemic variability can be a precursor to developing prediabetes and diabetes later on. So I know you and I have a very preventive, proactive approach. We don't want to wait for patients to become prediabetic. I'd rather catch them as soon as possible. So with CGMs, we can pick up on those early signals.

Dr. Ronesh Sinha 23:23

But I think the key thing right now, and hopefully this is going to shift, [is that] most doctors aren't comfortable prescribing them, and they may not know how to interpret the numbers. And quite frankly, they're just too overwhelmed. Being a typical doctor in today's age—like 15, 20 minutes per patient—they can't consume glucose data on top of that. So there are a lot of companies out there that are doing that. We're trying to do some stuff through the healthcare system. But I don't want people to wait for that time to come. You can still learn quite a bit by putting the sensor on and making some rational changes.

Dr. Ronesh Sinha 23:49

The last thing I want to say is that, to me, a glucose sensor is one of the best activity monitors out there because, when you see that spike and you go for a 10- or 15-minute walk, you often will see that glucose number come back down to a really reasonable level. And that's really powerful. You don't have to break a sweat; just put on your walking shoes and walk after that pasta meal or whatever, and you're going to see that glucose come back to a much more stable level.

Dr. Jill 24:11

Brilliant. I'm just in awe here because there are three things I was thinking [about] as you were talking. You just covered all three. Number one, as a physician, like myself in practice, this is amazing data, and I want to empower the patients. But for me to read it, it is a little overwhelming. So I love that you're talking about that. And I love that we're empowering patients to be their own advocates in some ways. They don't have to be the experts. But if you're out there listening and you've got one, you can learn. You can do some of this yourself. So I love that.

Dr. Jill 24:35

Number two: Cortisol. I'm on the other end of the spectrum, which are [those with] much lower cortisol. I tend to go on the low end of the glycemic index. My thought was, I have in my cabinet a two-week trial on the glucose monitor. I haven't put it on yet because I'm like, "Oh, I'm fine." And you just encouraged me. I'm like, "I'm going to go put that on because I bet you anything I'm dropping." And again, my A1C is fine now. But [I have] a strong family history of diabetes. And like you said, I guess for those listening, if you have really low cortisol, you may be on the opposite end of the curve. And the other helpful thing about this is not that you're going to have to watch… You could still spike after meals, but the bigger thing is, how often are you going into the sixties or fifties and feeling miserable, and it's all blood sugar-related? And then how do we eat to really sustain that?—because my go-to if I'm feeling not very well or kind of weak, I might grab some dried mango. Well, of course, that's high-glycemic, right? And I think I can afford it. But you've just encouraged me. I'll say this live on the air. I'm going to go do that. I'm going to [inaudible].

Dr. Ronesh Sinha 25:27

Yay! Reach out to me. I'd be happy to coach you through any of those numbers. You know, it's funny because whenever I'm in tech circles, people always come to me and say, "God, when are we going to invent a continuous cortisol meter?" And that'd be very difficult to do, but someday we'll probably have that. But until we have that, I actually think the glucose sensor is kind of a subtle surrogate marker for cortisol levels. I want to give one anecdote. I had somebody from my team put the sensor on. She had—a young woman—rock-stable glucose. I've been tracking her data. Then, basically—this is during COVID—she went to dinner at her in-laws and had a conflict with her in-laws about the COVID vaccine. And her glucose literally went up to, like, 180. She had never seen that number at all. So then, just because she knew of my work, she came out, did some reframing, and did some breathing on the patio. She came back, and she watched her glucose come back down. Then they all had chocolate cake together for dessert, and her glucose went up to 130. So I did a blog post on that, saying how your in-laws can be more dangerous than chocolate cake. But it's just to make the point that it's just incredible how those types of conflicts can cause so much. So yes, it can really get people to actually track that.

Dr. Ronesh Sinha 26:35

And speaking of dietary stress, we get a lot of people in our programs who are doing a lot of intermittent fasting and restrictive dieting. This is actually a motivator because when they see that glucose tank, they're wondering: "Why am I getting snappy with my kids? Why is my life experience different after 2 p.m. than it is in the first half of the day?" Often, we see that glucose drop can be a big factor. I tell them: "Maybe don't start eating at 12:00. I think you need to start eating at 9:00 or 10:00." It's interesting how we try to give everybody the same eating window, but there's so much variability hormonally from an

insulin perspective. So we do have to kind of play around with that. And that's why I like the sensor. I think the concept of time-restricted eating is powerful, but you may not be a one-meal-a-day person. There's a big OMAD move where people are just eating one meal [inaudible]. That's not right for a lot of my patients. They've got to add more meals. It's definitely not good for cortisol issues if you're basically just having one meal at the end of the day.

Dr. Jill 27:30

Gosh. Again, I don't have all the data on using continuous glucose monitors or the experience you do. But my thought is that in general, I often see women [who are] menopausal or [have] pretty low cortisol who probably shouldn't be doing intermittent fasting, or at least not to the extent that they're doing it. And it sounds like that aligns. If their cortisol has really tanked, intermittent fasting is an additional stressor that could drop them too low. Is that true?

Dr. Ronesh Sinha 27:53

Completely. Yes, absolutely. It's a big issue. I did a dedicated podcast episode on: Have we taken fasting too far?—because I think it really has in a lot of people. Again, there's a lot of advice we give with good intentions on Instagram or on social media. But for individuals, sometimes they'll take that advice in a way that could actually be negative for their health. So the fasting movement, for example, this whole science of autophagy where we can cleanse and renew our body by creating new cells—I mean, it's very powerful, but you know what I'm realizing from seeing women in my practices? When they hear the concept that "Boy, I can destroy my old body and renew my new body," that can really motivate them to eat less and less and less and less. If anyone has a borderline eating disorder, fasting can really push them over the edge. So I'm very aware of that. I'm doing as much counseling with my patients about eating more as I am about eating less because now I've seen the pendulum sort of go in the other direction. And it's easy because if you're a workaholic in Silicon Valley, you can use intermittent fasting as an excuse to just [inaudible].

Dr. Jill 28:55

To work more.

Dr. Ronesh Sinha 28:56

Work more, eat less. I know. Why should I waste food and eat when I can produce and do all this stuff? So we've got to be aware of these fine lines here.

Dr. Jill 29:04

Oh, this is tremendous. It's so helpful. One of the things that you mentioned in an email prior, and I love this question, [is that] heart disease in young people, we're seeing is epidemic and especially since the pandemic. What are your thoughts or comments on that as it relates to metabolic… ?

Dr. Ronesh Sinha 29:19

Ooh, boy, I know. So just to kind of level set here on some of the statistics and data: Heart disease has traditionally been the number one global killer in men and women. For many years, especially from 1999 to 2011, we actually saw a nice drop in heart disease mortality—death from heart disease. This was obviously [due to] the non-smoking campaign, physical activity, some dietary changes, obviously medical interventions, statin medications, and procedures that were definitely much more successful. So we saw a drop, which is great news. But now, as we move forward into more recent decades, we're actually seeing heart disease death rates go up. And especially through the pandemic, we've been seeing an additional spike on top of that. I've clearly been seeing this in my clinic.

Dr. Ronesh Sinha 30:05

I often do coronary calcium scans, which can be a marker for early heart disease. And I'm starting to see a lot more positives in patients where I wouldn't really expect that to happen. And the age group that I'm most concerned about is that we're seeing that spike in the 45- to 64-year-olds—so in that younger demographic. And actually, the specific demographic that we've seen the greatest spike in mortality is 45- to 64-year-old women in particular. We've been through the movement of raising awareness around women's heart disease, but I still have to say that I don't think we're quite there yet. A lot of my [patients who are] women are still concerned about breast cancer, which they should be, and other conditions. But heart disease isn't quite at the top of the list. I think we have to pay attention even more now that we've seen that spike be dramatic.

Dr. Ronesh Sinha 30:51

What are the factors that are contributing? I have a couple of theories and concepts. Obviously, heart disease is very complex, but one thing that I saw at the beginning of the pandemic was that when we were sort of in the midst of this chaos and people were sheltered at home, I did see that a significant percentage of my patients were actually walking more. They just needed to get out and hike. So, when I monitored my patients' activity levels, a lot of their walking steps went up. But now the novelty of the pandemic has sort of worn off, and people are just working like crazy from home. There has been a significant decrement and decline in walking steps. And I've got to say, when I look at the step count data, especially based on a JAMA study from 2020, it is really direct in terms of

death rates from cancer, overall death, and heart disease. The numbers we're looking at, the good side is if you're getting 8,000 to 10,000 steps per day or more, that's when mortality rates are the lowest and they tend to flatten out. So you can get 12,000 to 14,000, but it's going to be pretty flat at that point. The mortality rate really spikes when you start going below 7,000 or 6,000. That's when you really start to see heart disease and cancer rates and everything go up.

Dr. Ronesh Sinha 31:57

This has snuck up on people. What I mean by that is, in our post-pandemic world where people are really not going to the office, how many incidental steps were we getting from parking in the garage and walking into the office? When we weren't getting all of our groceries and supplies delivered, how many steps were you taking when you go to Whole Foods or Costco or wherever and you were walking from the parking lot and going down the aisles? That adds up to about 2,000, 3,000, or 4,000 steps. So if you go down from 7,000 to like 4,000, [there are] dramatic increases in heart disease and death rates. In some of my patients, I'm even monitoring their VO2 max, or metaboles, and their fitness levels. That 5%, 10%, 15%, or 20% decrement is disastrous. The older you get, the more that drops, and heart disease rates do go up. So again, the diet and all the other layers have been there, as you know, for years. But I think this additional deconditioning has been a major factor that contributes to this. Of course, the stress factors are there as well too. But to me, that's been a real abrupt shift—that activity level.

Dr. Jill 32:53

Gosh, I couldn't agree more. Even personally, I go to the office and have worked in. But there are a couple of days I do podcasts from home, and every once in a while it'll be like 4:00 o'clock and I realize I've been sitting here doing interviews and I haven't even walked out my door. And that's not like me. So it is, like, shocking. Then I'll be like, "Okay, I've got to go on a two-mile walk tonight." But it's really something to be aware of because we are sitting in front of screens a lot more than we used to. And like you said, before we'd go to the grocery store, [but now] we get it delivered. All these things are really wonderful convenience, but they're not good for our hearts.

Dr. Ronesh Sinha 33:26

Yes. And one thing I do want to say is that what I'm teaching a lot of my patients and corporate clients is that we have a bit of an all-or-nothing approach where it's like we're either sitting or standing like a statue or we're trying to hit an exercise or something. But there is an in-between thing. Right now, as I'm talking to you, I'm standing up. A lot of times I'm in Zoom meetings, and I really teach people to be creative. Sometimes I'm holding 30-pound dumbbells in each arm and activating my core. Or I'm standing on one

leg. Or I don't have to be on camera, so I can do a plank position. Or maybe I can do a walking meeting. But I tell people, really, that the art and science of this is: How do you weave physical activity and strength into your daily workday?

Dr. Ronesh Sinha 34:03

So coming back to culture, one of the things I talk about with my patients is rickshaw pullers in Asia, for example. Their day job is pulling rickshaws. They don't have to go to a 24-hour fitness or boot camp class because their work is doing that. So I'm really trying to get my patients [to realize]: How do you make your job a little more physically active even if it's not designed to be physically active?—because that can make a huge difference. There are studies that show that people who even fidget more—not nervous fidgeting, but they're [with] their knee up and down and doing these things—burn up to 1500 to 2000 calories. There's a disproportionate amount of caloric burn just from micromovements throughout the day. So that's something.

Dr. Ronesh Sinha 34:40

And when people wore CGMs and they're just a little bit more active, they're pacing back and forth. Maybe sometimes you just shut the video off and just do a regular teleconference phone call because even this visual of seeing each other [through live-streaming] is not a natural thing throughout the day. You get a lot of visual drain from that. But I think some of those techniques can really help people integrate some movement and activity. And you know, I think sedentarism—I tell people it's more stationary behavior because now people have stand-up workstations and they're like a statue. Really, standing throughout the day burns incrementally a little bit more than sitting. You can actually sit in a very active posture and actually burn more calories than standing stiff like a statue. But even shifting between sitting, standing, and doing that [can be beneficial]. I tell people to avoid stationary behavior, not just sedentary behavior. So they know that even standing still may not be optimal for health too.

Dr. Jill 35:27

Oh gosh, it's so practical. I know people have heard me on the podcast say this before: A couple of years ago, I kind of stopped working out with those high-intensity things, and I feel like I got in much better shape. My secret was: Like, in my doorway, here is a pull-up bar. So when I go through that door, I do a couple of pull-ups. After my teeth brushing, I do a few push-ups. I just have these little things I sneak in. And I love it because, in my mind, I'm not really working out, but I am. Or while I'm waiting for coffee, I do calf raises. I have these little things I've just incorporated. So there are these secret little mini-workouts. Or I'll do lunges, [like] when I was walking the dog before.

Dr. Ronesh Sinha 35:59

Oh, that's awesome.

Dr. Jill 36:00

Right? Just like what you're describing. But I love it because I don't ever go to the gym anymore. Again, back to Buettner's work on the centenarians and the commonality: None of them go to the gym, but they all move in their everyday lives. Like, they just go down the road to visit their friend, or they are carrying hay bales to the cows. And I love that because we've gotten [this] idea that we have to go to 24-hour fitness. And you've seen that meme of 24-hour fitness, like going to the gym and riding the escalators to the stairs.

Dr. Ronesh Sinha 36:28

Yes, yes. Totally. And that's a really good point. I mean, I'm not discouraging people who have classes in the evening. I love class space work. But the nice thing is, when you're doing those incremental exercises, guess what? Your body is already warmed up, your joints are lubricated, and you're going to get more out of that workout at 6:00 or 7:00 p.m. And you're going to have a low risk of injury. When you're cold from standing or sitting all day, you hop in the car and go to that class. I see a lot of injuries in my practice: Sprained ankles, falls—all this stuff—just aches and pains. The other thing—exactly—is that when your workouts are too intense, I often see that incidental walking steps for the next 24 to 48 hours actually tank. So one key thing I want to say is that excessive high-intensity exercise, number one, has been shown to cause lower baseline physical activities [especially] if you're spending the next 48 hours recovering.

Dr. Ronesh Sinha 37:16

The second thing is that when exercise is highly intense, coming back to energy partitioning, you're using a higher proportion and amount of glucose in the body. That might be good if you're trying to keep glucose levels down, but the problem is that you will actually consciously or subconsciously consume 15%, 20%, or 20% plus more calories for the next 24 to 48 hours. It's coming from carbohydrates. I wish I could tell you that the body is matching it exactly to what you need. Usually, [though], you're overmatching. So I found that if I'm doing a lot of high-intensity [activity], I get really hungry. I love carbohydrates just by doing this work, and it's dangerous where my exercise can really sabotage that. But when you hit that sweet spot, that moderate zone cardio, and yes, once a week you go out for something high intensity, it's so much easier to manage the diet because then your body's not sending all these signals that I need carbs right now. So I'm glad you brought that up because that's the key. Some people are just overdosing on high-intensity exercise and getting more injured. There's actually some data showing that

it might actually increase heart disease risk if you're doing too much of that high-intensity exercise.

Dr. Jill 38:16

Yes. And the cortisol, if you're really low, it's probably not the right thing. If you're really high, it might be raising it further.

Dr. Ronesh Sinha 38:21

It's like Goldilocks. Yes, you need that sweet spot for that, for sure.

Dr. Jill 38:24

Yes, very good. You are such a wealth of information. What would be one takeaway if people listening to this were maybe dealing with pre-diabetes or metabolic syndrome? Give us one kind of takeaway for the listener.

Dr. Ronesh Sinha 38:36

Yes. A lot of the prioritization in my clinic is sort of like, "What should I prioritize first between diet and exercise?" When I first started my practice in my 30s and a lot of my patients were around that age group, it's kind of magical that when you make dietary changes, you see an immediate transformation. And I still see that. But when you get into your 40s and 50s, I find that the same dietary changes you might have made a couple of decades ago don't quite have the same benefit. So I would say, especially beyond age 30 and for anybody, but really as we're starting to age, don't forget about physical activity because I find people spend a lot of time micromanaging their diet. They're switching diets and adjusting their fasting windows. "Should I do 100 grams of carbs? Should I do 75?" I'm like: "You know what? Stick to sound dietary principles. You need to pivot to the physical activity."

Dr. Ronesh Sinha 39:25

Coming back to the point about the step count and a lot of these things, I'm really concerned about how much aerobic deconditioning is happening. One thing I want to leave people with is that as much as we focus on all these specific metrics like blood pressure, glucose, and LDL—still, by far—over the past few decades, we've seen one of the most important factors for heart disease risk is how fast you can walk or run a mile. So what I tell my patients is that when you walk in the evenings, I want you to have a circuit in the neighborhood or maybe at the local track and see how fast you can walk that circuit and write that number down—just like that's your LDL cholesterol or your glucose number. If you're exercising properly, not overdosing or underdosing, your one-mile walk time

should gradually get faster. That is one of the strongest, strongest predictors of heart health and overall health going forward. If you're metrically motivated, just paying attention to that number is really, really, super powerful. So I think I'd leave people with that physical activity message. I think we hammered away at the stress message quite a bit, but I can't leave without saying: Do take stress seriously. Maybe the glucose sensor can motivate you more as well. But I think hopefully there will be some seeds we planted pretty well through this discussion.

Dr. Jill 40:30

Absolutely fantastic. I love it. On my walk, I'm going to start timing and see where I'm at with my evening walk. So where can people find you, Dr. Ron, and your information? I think you have the Meta Program. I want to be sure to emphasize that.

Dr. Ronesh Sinha 40:44

Sure, sure. Yes, so basically, I've done quite a bit of writing on my blogs with culturalhealthsolutions.com. If you go there, you'll see a highlight for a program that I designed called the Meta Program. These are small group sessions that we do virtually, where I teach people exactly what I do from day to night. We teach people how to exercise. We've got a WhatsApp group where people share how they're actually making changes in real-time. So it takes a lot of these principles and turns them into daily practices. You'll get a lot of information there. My podcast is called the Meta Health Podcast. Lastly, I do some social media on Instagram. I usually post a couple of times a week about scientific studies or show people some exercises. And my handle there is @RoneshSinhaMD.

Dr. Jill 41:25

Awesome. Everywhere you are listening to this in the show notes, you'll find these links. I'll be sure to put them. Dr. Ron, it has been a pleasure to say hello and get to know you and your platform. And thank you for all the good you're putting into the world.

Dr. Ronesh Sinha 41:37

Thank you so much for the opportunity. I definitely feel a kindred connection based on this discussion. We'll stay connected after. Take care.

Dr. Jill 41:43

Absolutely. Thanks so much.

Dr. Ronesh Sinha 41:45

Sure, bye-bye.